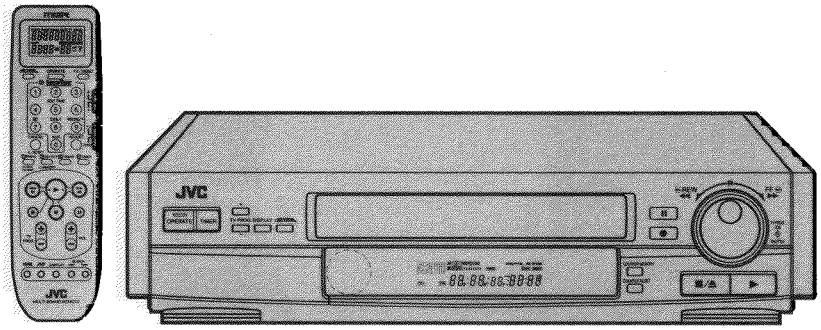
JVC

VIDEO CASSETTE RECORDER

HR-E226EG/J220E/J221E



SHOWVIEW

VHS PAL

SPECIFICATIONS *(The specifications shown pertain specifically to the model HR-E226EG)*

GENERAL

Power requirement	: AC 220 – 240 V~, 50/60 Hz
Power consumption	: 20 W
Temperature	
Operating	: 5°C to 40°C
Storage	: –20°C to 60°C
Dimensions (WxHxD)	: 426 x 94 x 341 mm
Weight	: 4.5 kg
Format	: VHS PAL standard
Maximum recording time	: 240 min. with E-240 video cassette

VIDEO/AUDIO

Signal system	: PAL-type colour signal and CCIR monochrome signal, 625 lines/50 fields
Recording/Playback system	: Rotary two-head helical scan system
Signal-to-noise ratio	: 45 dB
Horizontal resolution	: 250 lines
Frequency range	: 70 Hz to 10,000 Hz
Input/Output	: 21-pin scart connector x 2 (IN/OUT x 1, IN/DECODER x 1) RCA connectors (VIDEO IN x 1, AUDIO IN x 1)

TUNER/TIMER

TV channel storage capacity	: 80 positions (+AUX position "AU")
Channel coverage	: VHF 47 – 89/104 – 300/ 302 – 470 MHz UHF 470 – 862 MHz
Aerial output	: UHF channel 36 (Adjustable 32 – 40)
Memory backup time	: Approx. 3 min.

ACCESSORIES

Provided accessories	: Aerial cable, Infrared remote control unit, "R6" battery x 2

Design and specifications subject to change without notice.

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April 1995

INSTRUCTIONS

Safety Precautions

The rating plate and the safety caution are on the rear of the unit.

WARNING: DANGEROUS VOLTAGE INSIDE
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

The OPERATE button does not completely shut off mains power from the unit, but switches operating current on and off.

CAUTION
- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the AC outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the AC outlet prior to connecting or disconnecting any signal lead or aerial.

WARNING
There are two different types of SECAM colour systems: SECAM-L, used in FRANCE (also called SECAM-West), and SECAM-B, used in Eastern European countries (also called SECAM-East).
1. This recorder can also receive SECAM-B colour television signals for recording and playback.
2. Recordings made of SECAM-B television signals produce monochrome pictures if played back on a video recorder of SECAM-L standard, or do not produce normal colour pictures if played back on a PAL video recorder with SECAM-B system incorporated (even if the TV set is SECAM-compatible).
3. SECAM-L prerecorded cassettes or recordings made with a SECAM-L video recorder produce monochrome pictures when played back with this recorder.
4. This recorder cannot be used for the SECAM-L standard. Use a SECAM-L recorder to record SECAM-L signals.

IMPORTANT:
- It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.
- Please read the "Precautions" section of this instruction manual before installing or operating the recorder.

VHS HQ SHOWVIEW

- Only cassettes marked "VHS" can be used with this video recorder.
- HQ VHS is compatible with existing VHS equipment.
- ShowView is a trademark applied for by Gemstar Development Corp. ShowView system is manufactured under licence from Gemstar Development Corporation.

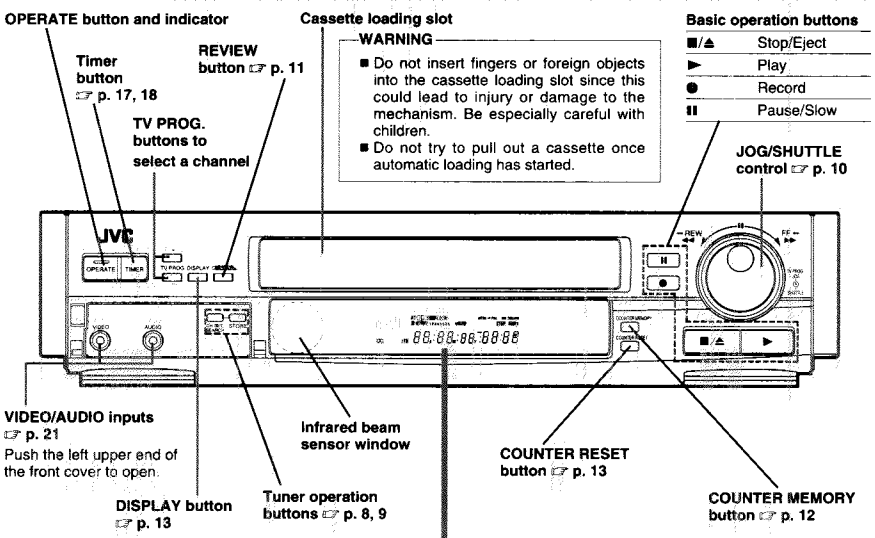
Contents

Controls And Indicators 3
Connections 5
Information On Scrambled Broadcasts 6
Setting The Clock 7
Setting The Tuner 8
Playback 9
Recording 12
Preparation For ShowView Timer Programming 14
Timer-Recording 17
Editing 20
Using The Remote Control For TV Operation 22
Precautions 23
Specifications 23
In Case Of Difficulty 24

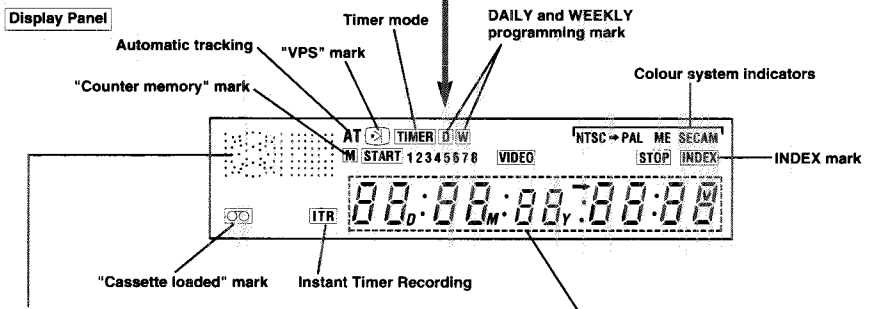
Controls And Indicators

ENGLISH

Front Panel


OPERATE button and indicator
Timer button ☞ p. 17, 18
REVIEW button ☞ p. 11
TV PROG. buttons to select a channel
Cassette loading slot
WARNING
■ Do not insert fingers or foreign objects into the cassette loading slot since this could lead to injury or damage to the mechanism. Be especially careful with children.
■ Do not try to pull out a cassette once automatic loading has started.
Basic operation buttons
■/⏏ Stop/Eject
► Play
● Record
❚❚ Pause/Slow
JOG/SHUTTLE control ☞ p. 10
JVC
VIDEO/AUDIO inputs ☞ p. 21
Push the left upper end of the front cover to open.
DISPLAY button ☞ p. 13
Tuner operation buttons ☞ p. 8, 9
Infrared beam sensor window
COUNTER RESET button ☞ p. 13
COUNTER MEMORY button ☞ p. 12

Display Panel



Symbolic mode indicators

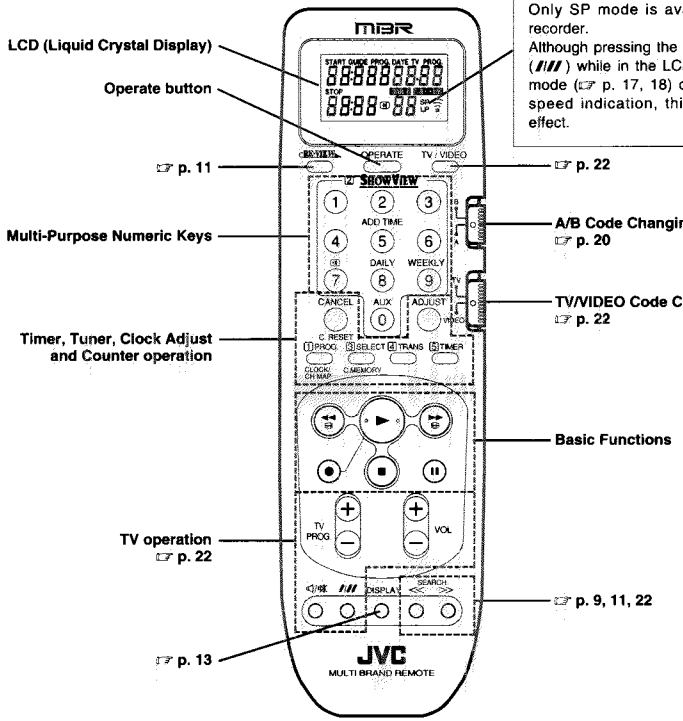
PLAY:	▷	REW VARIABLE SHUTTLE SEARCH:	◁ ◁◁
FF:	▷▷	STILL: FORWARD SLOW:	▷ ▯▯
REW:	◁◁	STILL: REVERSE SLOW:	◁ ▯▯
FF VARIABLE SHUTTLE SEARCH:	▷ ▷▷	RECORD :	○
REVERSE PLAY:	◁	RECORD PAUSE:	○ ▯▯

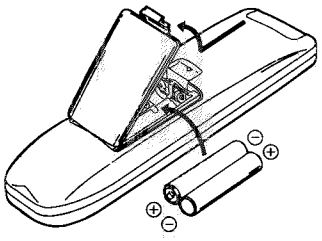
* The indicator will blink during turbo search.

Switchable display
- Channel position
- Date/Clock
- AUX indicator(AU 1, AU 2 or F-AU)
- Child lock indicator
- Timer start/stop time
- Instant timer recording time
- Real channel
- Realtime tape counter
- INDEX code number

Controls And Indicators (cont'd)

Wireless Remote Control





Installing Batteries

1. Open the battery compartment cover.
2. Insert 2 "R6"-size batteries (provided) in the correct directions.
3. Replace the cover.

How To Use

The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets of JVC and other brands. ☞ p. 22.

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

Connections

ENGLISH

It's essential that your video recorder be properly connected. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VIDEO OPERATION CAN BE PERFORMED.

A RECORDER-TO-TV CONNECTION

RF CONNECTION

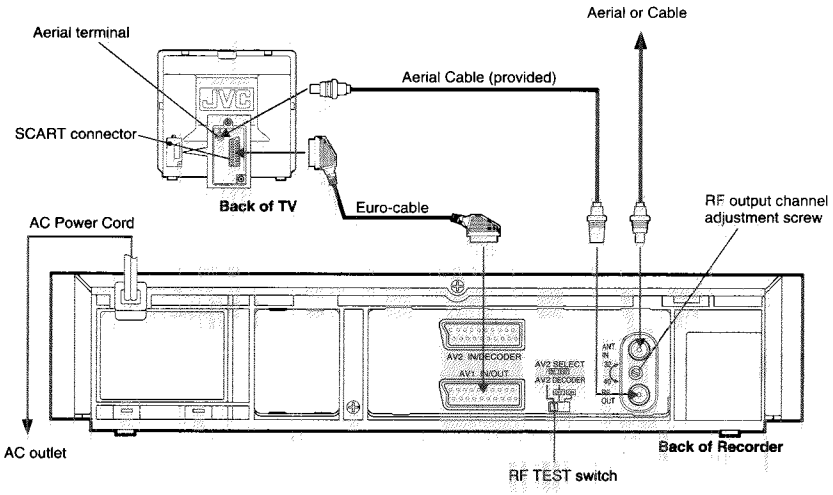
For TV sets without AV input terminals:

1. Connect the TV aerial cable to the recorder.
2. Connect the recorder to the TV's aerial terminal.

AV CONNECTION

For TV sets with AV input terminals:

1. Connect the aerial, recorder and TV as per "RF CONNECTION".
2. Connect the recorder to the TV's 21-pin SCART connector.

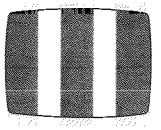


B TUNE THE TV TO YOUR VIDEO RECORDER

The video recorder sends picture and sound signals via the RF connecting cable to your TV on UHF channel 36.

TEST SIGNAL

1. Turn on the recorder.
2. Set the RF TEST switch to ON.
3. Press TV/VIDEO to engage the VIDEO mode.
4. Set your TV to the video channel. Tune the TV to bring the two vertical white bars on the screen most clearly. (UHF/CH 36)
   - Your TV should be set to the channel designated for use with a video recorder or to a spare channel if there is not a specified video channel on your TV.
5. Reset the RF TEST switch to OFF.



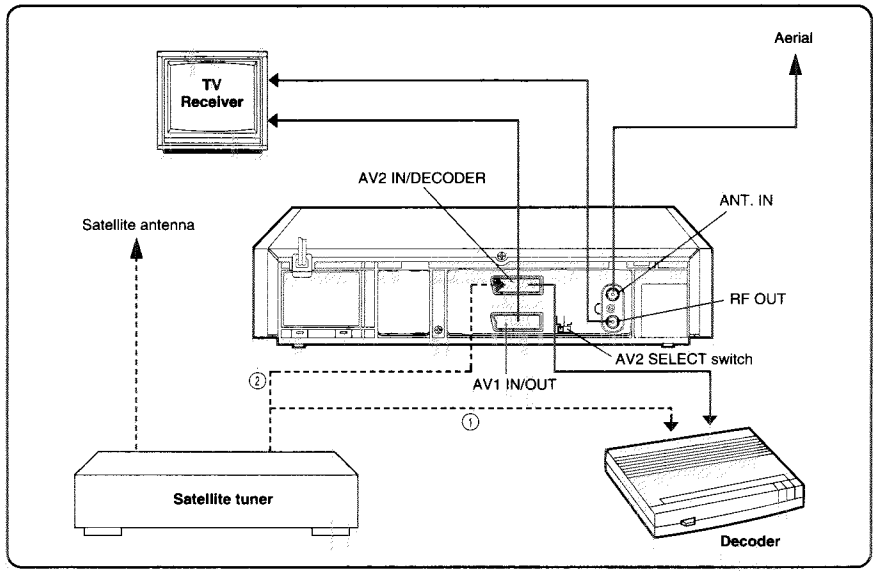
NOTES:

- If CH36 is occupied by a local station, adjust the RF output channel adjustment screw to use another channel between CH32 and CH40 instead.
- If some interference noise is continually seen on the screen, consult your JVC dealer.

IMPORTANT:

To operate the recorder with your TV using the RF connection, it is always necessary to set your TV's channel to the VIDEO channel. With an AV connection, set the TV to the VIDEO (or AV) mode.

Information On Scrambled Broadcasts



SET UP

The AV2 IN/DECODER connector can be used as an input terminal for an external decoder (descrambler). Simply connect a decoder and you can enjoy the variety of programming that is available through scrambled channels.

1. Connect your recorder and TV via their AV connectors (☞ p. 5, AV CONNECTION).
2. Set the AV2 SELECT switch on the recorder's rear panel to "DECODER".
3. Connect your recorder's AV2 IN/DECODER connector to the decoder's Euroconnector using a 21-pin SCART cable.
4. Set the tuner to receive scrambled channels (☞ p. 8, Setting The Tuner).

NOTES:

When connecting a satellite tuner...

- Connect the satellite tuner to the decoder ①, or if you don't have a decoder connect the satellite tuner directly to the vieo recorder ②.
- Set the AV2 SELECT switch on the rear panel to "AV2".
- To view a programme via the satellite tuner, select AU 2 mode by pressing TV PROG. until "AU 2" appears on the display panel.

WATCHING SCRAMBLED CHANNELS

Preparation

- Turn on the TV.
- Select VIDEO channel (or AV mode).

1. Press TV/VIDEO to select the VIDEO mode.
2. Choose a scrambled channel using the Numeric keys or TV PROG. just as you would with regular stations.

Watching One Programme While Recording Another

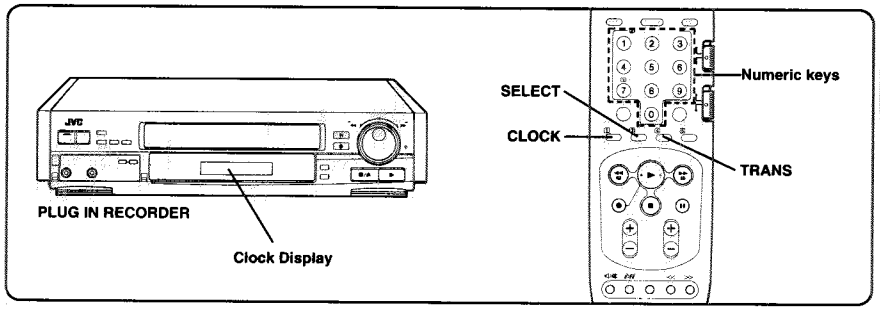
To watch a regular TV programme while recording a scrambled programme:

- Press the TV PROGRAM button on the TV's remote control and select the channel you want to watch.
- To watch the scrambled programme that is being recorded, press TV/VIDEO and select the VIDEO mode.

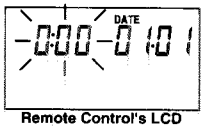
To watch a scrambled TV programme while recording a regular programme:

- Press the TV PROGRAM button on the TV's remote control and select the scrambled channel. After displaying a scrambled picture for a few seconds, the programme will become descrambled and a viewable picture will appear on the TV screen.

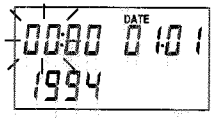
Setting The Clock



1. Load batteries (☞ p. 4).

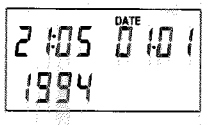


2. Press CLOCK.



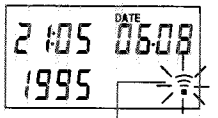
3. Press the appropriate numeric keys to input the time.

- Example: For 21:05, press 2 1 0 5.



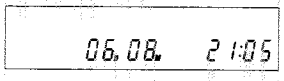
4. Press the appropriate numeric keys to input the day, month and year.

- Example: For 6th August, 1995, press 0 6 0 8 1 9 9 5.



5. Press TRANS with the remote control directed to the recorder's remote sensor window.

- The remote control's clock will start. At the same time, the set data will be transferred to the recorder.



Recorder's Display Panel

TO MAKE CORRECTIONS

Press SELECT button so that the item you want to change blinks. Re-input that item. Continue to step 5.

AFTER A POWER CUT

Since your video recorder has a 3-minute backup memory, it will not be affected by short power cuts. If mains power is unavailable for over 3 minutes, however, the recorder's display will reset to 0:00. In such a case, simply transfer the remote control's time to the recorder.

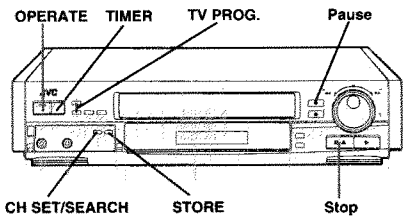
1. Press CLOCK three times.
2. Press TRANS with the remote control directed to the recorder's remote sensor window.

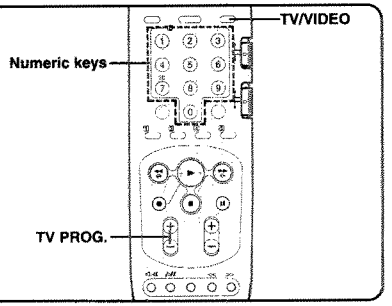
NOTES:

- If the day and month data is invalid (such as 31st April), the month digits are cleared automatically and the day digits will blink. Input again.
- If the year digits are automatically cleared in step 4, it is possible that you have input 29th February for a non-leap year. Input again.
- When the batteries are exhausted, the time display will change to "0:00" and start blinking. Replace all the batteries and set the clock again.

Setting The Tuner

■ Turn on the TV: Select VIDEO channel (or AV mode).
■ When the decoder is connected, switch on the decoder.



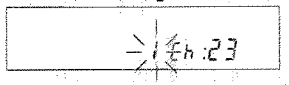


The procedure introduced here lets you assign receivable channels in your area to channel positions on your video recorder's tuner. Once stored, these can be accessed with the TV PROG. buttons.

1. Press OPERATE to turn on the recorder.
2. Press TV/VIDEO to engage the VIDEO mode.
3. Press CH SET/SEARCH until the display panel shows the following.

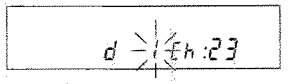
Ch = Regular CC = Cable

4. Press CH SET/SEARCH again briefly to start automatic scanning for receivable channels.



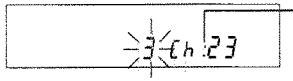
■ Automatic scanning stops when a station is detected, and the channel position will blink.
■ Holding down CH SET/SEARCH will start reverse search.
■ If you don't want to store the station detected, simply press CH SET/SEARCH to continue automatic scanning.

5. Press TV/VIDEO on the remote control when a scrambled broadcast is detected.



■ The programme will be descrambled. For normal (non-scrambled) broadcasts, do not press TV/VIDEO.

6. Press numeric keys or TV PROG. to select the channel position where you wish to store that TV station.



7. Press STORE to store the station.
■ The colon will disappear when the station is stored.

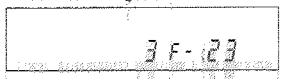
8. Repeat steps 4 through 7 for other receivable channels.
■ If the picture of the detected station is not satisfactory, try fine-tuning. See below.

9. Press Stop on the recorder to disengage the Channel Set mode.

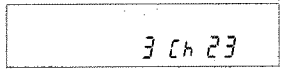
TO GET A CLEARER PICTURE — Fine-Tuning—

After step 8, you can perform Auto Fine-Tuning for all the stored stations at once.

1. Press Pause for more than 2 seconds.
■ Auto Fine-Tuning will start.



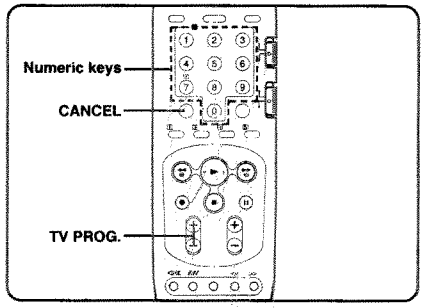
■ After completion of Auto Fine-Tuning for all the stored stations, the display panel will return to step 7.



2. Continue to step 9.

If you want to fine-tune a specified station, try fine-tuning manually.

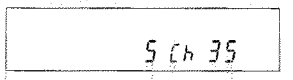
1. Press TV PROG. (+ or –) to select the station you wish to fine-tune.
2. Press Pause briefly.
3. Press TV PROG. (+ or –) so that the picture becomes clearer.
4. Press Pause briefly again.
5. Continue to step 9.



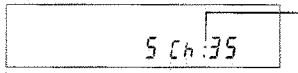
TO DELETE STORED CHANNELS

Please follow the procedure described below when you wish to delete a poorly received channel.

1. Press TV PROG. to select the channel position you want to skip.
2. Press CH SET/SEARCH for more than 2 seconds.



3. Press CANCEL.



■ The colon will appear when the station is deleted. Channel position 5 can no longer be chosen by TV PROG. buttons.

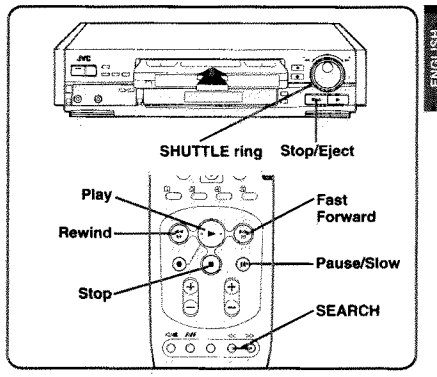
4. Press Stop on the recorder to disengage the Channel Set mode.

TO STORE NEW CHANNELS

Please follow the procedure described below when you wish to add a new channel.

1. Press CH SET/SEARCH for more than 2 seconds.
2. Press TIMER.
■ Real channel starts blinking.
3. Press TIMER to change the band between Ch and CC, if necessary.
4. Press numeric keys to input the number of the real channel you want to store.
5. Press numeric keys to input the number of a vacant channel position.
6. Press STORE to store the channel.
7. Press Stop on the recorder to disengage the Channel Set mode.

Playback



Basic Operations

Preparation
■ Turn on the TV.
■ Select VIDEO channel (or AV mode).

1. Load a cassette.
■ The recorder power will come on automatically.
■ The counter will be reset to "0:00:00" automatically.
■ If the safety tab on the cassette is removed, playback will start automatically.

2. Press Play to start playback.

3. Press Stop to stop playback.
■ To rewind the tape, press Rewind or turn the SHUTTLE to the left and release it.
■ To fast-forward the tape, press Fast Forward or turn the SHUTTLE to the right and release it.
■ To stop rewind or fast-forward, press Stop.

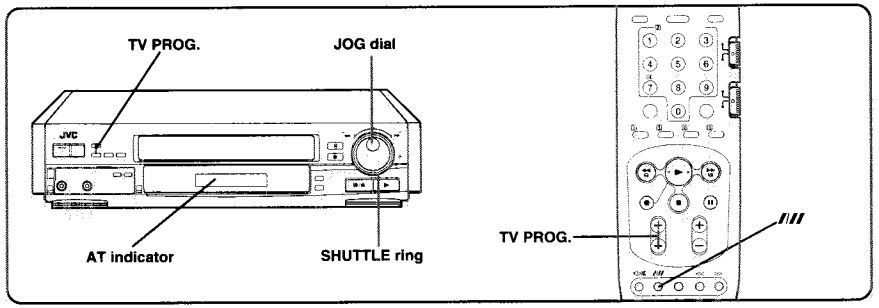
4. Press Stop/Eject on the recorder to eject the tape.

Variable-Speed/High-Speed (Turbo) Search, Still Playback/Frame Advance/Forward Slow Motion

During Playback:
■ Press either SEARCH button for variable-speed search.
■ The more times the button is pressed, the faster the playback picture will move.
■ To decrease speed, press the button for the opposite direction.
■ Press Fast Forward for high-speed forward search, or Rewind for high-speed reverse search.
■ For short searches, keep Fast Forward or Rewind pressed for more than 2 seconds. When released, normal playback will continue.
■ Press Pause/Slow to view a still picture.
■ Press again to advance the picture frame by frame.
■ Press Pause/Slow for 2 seconds for slow motion.

During Still:
■ For frame-by-frame playback in the forward or reverse direction, press SEARCH << or >> in the corresponding direction.

Playback (cont'd)



Other Functions

JOG/SHUTTLE Control

You can view pictures in slow to fast motion, or frame-by-frame.

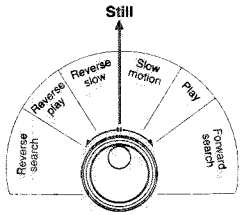
During Playback or Still:

1. Turn the outer ring (SHUTTLE) in either direction. The farther the ring is rotated, the faster the search speed. Releasing the ring stops the picture in the Still mode.
   - For fast-forward with a visible picture, turn the SHUTTLE all the way to the right and release it within 1 second.
   - For rewind with a visible picture, turn the SHUTTLE all the way to the left and release it within 1 second.

During Playback or Still:

1. Turn the inner dial (JOG) clockwise or counterclockwise for jog control. The tape moves frame-by-frame at the speed with which the dial is turned, in the direction the dial is rotated.

To resume normal playback, press Play button.



Manual Tracking

Your video recorder is equipped with automatic tracking control. If you wish to adjust tracking manually, you can override this function.

During Playback:

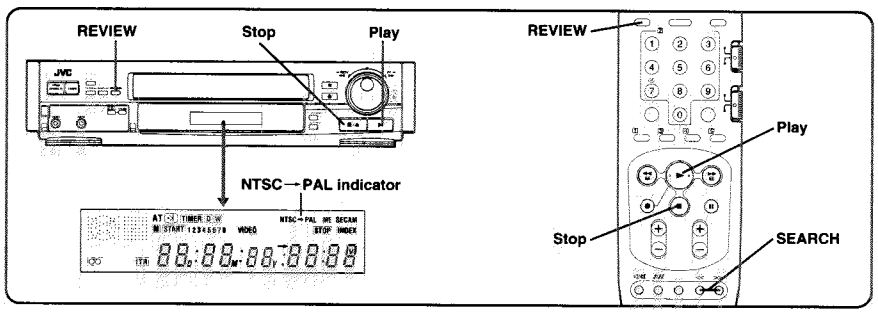
1. Press the recorder's TV PROG. + and – buttons simultaneously.
   - The AT indicator will go out.
2. Press TV PROG. + or – to adjust tracking.
   - Press TV PROG. + and – simultaneously to return to automatic tracking.
   - To adjust tracking manually with the remote control, first press the /// button and then press TV PROG. – or +. Press the /// button again to return to automatic tracking.

During Slow:

1. Simply press TV PROG. + or – to adjust tracking.

NOTES:

- The recorder automatically stops when still continues for more than 5 minutes.
- If the still picture is unstable, use the TV PROG. buttons to correct the picture.
- During search playback, some noise bars will appear.
- There is no audio during search, slow, still, or frame-by-frame playback.
- When a new tape is inserted, the recorder enters the automatic tracking mode automatically.

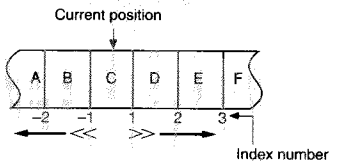


Index Search

Your recorder automatically marks index codes at the beginning of each recording. This function gives you quick access to any one of 9 index codes in either direction.

During Stop:

1. Press SEARCH << or >>. "INDEX –1" or "INDEX 1" will be displayed on the display panel and search will begin in the corresponding direction.
2. If you wish to access index codes 2 through 9, press SEARCH repeatedly until the correct index number is displayed.
   Ex.: To locate the beginning of B from the current position, press SEARCH << twice.
   To locate the beginning of D from the current position, press SEARCH >> once.



- When the specified index code is found, playback will start automatically

ReView Function

Simply by pressing a single button, the recorder power comes on, rewinds, and begins playback of the last recording. This makes it easier to "review" the programme you have timer-recorded.

When the recorder power is off:

Press REVIEW.

- After the racorder power comes on, the tape will be rewound to the beginning of the last recording (where the index code is placed) and playback will start automatically.
- To play back a recording located 2 index codes away, press REVIEW twice. You can access any one of up to 9 index codes.
- ReView is not possible while the recorder is in the Timer mode.
- The recorder's REVIEW button lights when timer-recording is finished, and blinks while the tape is being rewond.

NTSC Playback

Your video recorder is equipped with NTSC circuitry that can play back NTSC tapes.

1. Insert a cassette recorded in NTSC.
2. Press Play.

When playing back NTSC tapes:

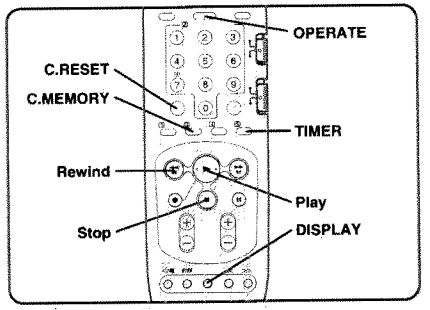
- "NTSC → PAL" will appear on the display panel.
- Some TVs shrink the picture vertically and place black bars at the top and bottom of the screen. This is not a malfunction on the part of either the video recorder or the TV.
- The picture may roll up or down. This can be corrected using the V-HOLD control found on some TVs. (This cannot be corrected if the TV does not have a V-HOLD control.)
- The counter reading will be incorrect.
- During search, still, or frame-by-frame playback, the picture will be distorted, and there may be a loss of colour.

Repeat Playback

During Playback:

1. Press Play for more than 5 seconds, and release.
   - The Play indicator (▷) on the display panel will blink slowly.
   - The tape will be played all the way to the end 20 times automatically, and then stop.
2. To stop playback at any time, press Stop.

Playback (cont'd)



Other Functions (cont'd)

Counter Memory

During Playback:

1. Press DISPLAY until a counter reading appears on the display panel.
2. Press C.RESET at a point you wish to locate later.
   - The counter will read "0:00:00".
3. Press C.MEMORY.
   - The M indicator will light on the display panel.
4. When you wish to return to that point, press Stop and then Rewind.
   - The tape will rewind and stop at about "0:00:00" automatically.
5. To cancel the Counter Memory mode, press C.MEMORY again.

Next Function Memory

Your recorder can memorise what to do after rewind.

During Stop:

For automatic start of playback after the tape is rewound:

1. Press Rewind.
2. Press Play within 2 seconds.

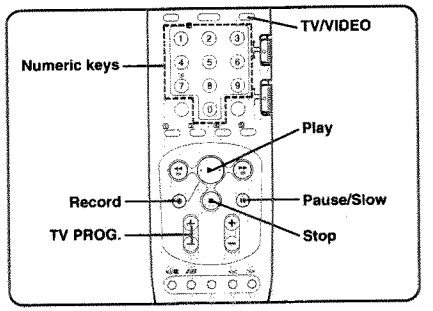
For automatic power off after the tape is rewound:

1. Press Rewind.
2. Press OPERATE within 2 seconds.

For automatic timer standby after the tape is rewound:

1. Press Rewind.
2. Press TIMER within 2 seconds.

Recording



Basic Operations

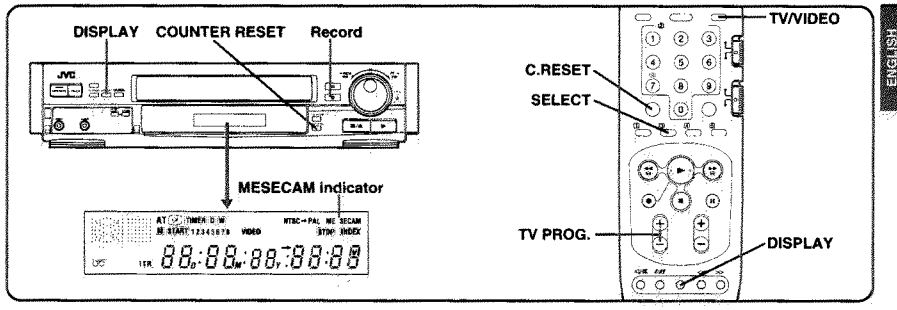
Preparation

- Turn on the TV.
- Select VIDEO channel (or AV mode).

1. **Load a cassette.**
   - The recorder power will come on automatically.
2. **Press TV/VIDEO to engage the VIDEO mode.**
3. **Press TV PROG. or the numeric keys to select the channel you wish to record.**
   - You can also use the recorder's JOG dial to select the channel.
4. **Press Record and Play simultaneously.**
5. **Press Pause/Slow to pause recording.**
6. **Press Play to resume recording.**
7. **Press Stop to stop recording.**

NOTES:

- To start recording with the recorder's Record button, press it once on its own.
- After pause, when recording is resumed, a few frames recorded before the pause may be overlapped by the new recording. This is meant to reduce picture distortion and is not a malfunction.
- The recorder automatically stops when record-pause continues for more than 5 minutes.
- If the Record button does not work, check to see if the cassette's safety tab has been removed.
- The channel cannot be changed while recording is in progress. To change the channel, engage the record-pause mode, then change the channel.
- The recorder automatically rewinds when the end of the tape is reached during recording.
- When a VPS programme is being broadcast on the selected channel, "VPS" mark appears on the display panel. ☞ p. 19 for information on VPS.



Other Functions

To Watch Another Programme While Recording

During Record:

1. If your recorder is connected to the TV via AV connection, press TV/VIDEO.
   - The recorder's VIDEO indicator and the TV broadcast being recorded will disappear.
2. Use the channel controls on the TV to select the other channel you wish to view.
   - The programme selected with the TV channel controls will appear on the TV screen while the one selected with the video recorder's channel controls will be recorded on the tape.
   - If a decoder is connected to the recorder (☞ p. 6), you can select a scrambled channel as well with the TV channel controls.

Instant Timer Recording (Off Timer)

You can start a recording and then set the recorder to shut off automatically after a set duration.

During Record:

1. Press recorder's Record. "ITR" and "0:30" indications appear, advising that power will switch off after 30 minutes.
2. Press Record again to delay the off-time by 30-minute increments (up to 4 hours).
   - For more precise setting, use the remote control's SELECT and TV PROG. buttons to set the exact time required (possible up to 4 hours and 59 minutes).

Elapsed Recording Time Indication

When you need to know the exact time of a recording.

1. Press DISPLAY until a counter reading appears on the display panel.
2. Press C.RESET before starting recording or playback.
   - The counter will be reset to "0:00:00" and show the exact elapsed time as the tape runs.

Display Button

When you wish to check the time, date, or counter reading

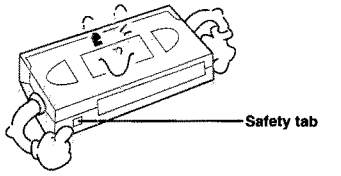
1. Press DISPLAY to display the current clock time.
2. Press DISPLAY again to display the current date.
3. Press DISPLAY again to display the counter reading.

Information on Colour System

- You can also record SECAM signals, or play back a MESECAM tape on this recorder.
- When SECAM signals are being received, "MECECAM" will be displayed on the display panel.
- When a MESECAM tape is played back, "MESECAM" will be displayed on the display panel.
- MESECAM is the designation for tapes with SECAM signals that have been recorded on MESECAM-capable PAL recorder.

Special Note On Video Cassettes

To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.



Preparation for ShowView Timer Programming

What is ShowView?
For timer-recording to take place, information such as the channel, date, start time and stop time of the programme you wish to record, must be programmed into the recorder's timer memory. The ShowView system condenses all this information into a simple ShowView code number.
Since the ShowView number contains information on the channel number, if you live in an area that uses channel numbers that are different from those listed in your TV directory, these "differences" must be input into the remote control. This process is called "Channel Mapping" (CH MAP).

CHECK THE GUIDE PROG. NUMBERS

Preparation
- Make sure you have set the clock. (☞ p. 7)
- Make sure you have set the tuner. (☞ p. 8)
- Get a TV schedule listing (magazine, newspaper, etc.) which carries ShowView code numbers.

A Find out the channel position numbers your recorder tunes to when you use the TV PROG. –/+ buttons (the positions you stored on page 8) and write them into the list.

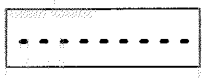
Example: 1, 2, 3, 4, 6, 8, 10, 12

B Look through the TV listing and find out the broadcast station name of each of the channels.

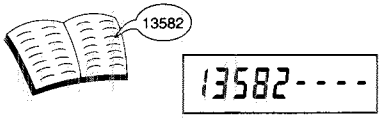
C Use the ShowView numbers to find out the GUIDE PROG. numbers for each of the stations.

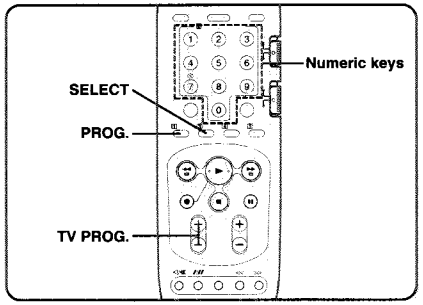
How to check:

1. Press PROG.



2. Press the appropriate numeric keys to enter the ShowView number for a programme as it appears in your TV listing.
- Make sure the ShowView number is for a programme which has not been broadcast yet.





3. Press SELECT.

GUIDE PROG.

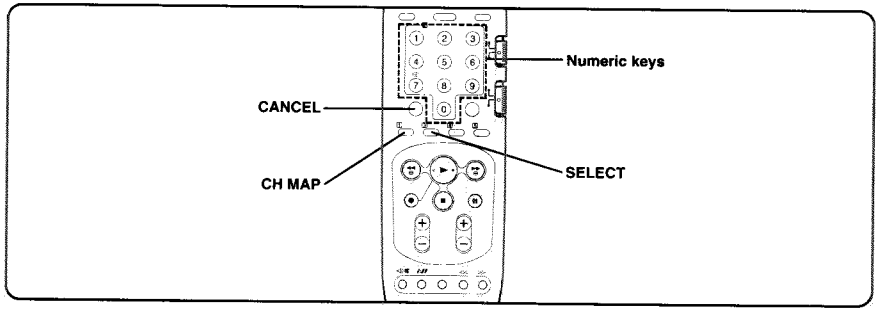
- The number that appears as the channel number is the GUIDE PROG. number for that station. Write it into the list.

ATTENTION
- When you press the SELECT button in step 3, "Err(or)" may appear on the LCD.
  This may mean that...
  - you entered a ShowView number for a programme which has already passed.
  - the GUIDE PROG. number for that station is a 3-digit number.
- For 3-digit GUIDE PROG. numbers, refer to the GUIDE PROG. number list enclosed with this instruction manual or consult your JVC dealer.

4. Press PROG. and display the clock time.
- Repeat steps 1– 4 and check the GUIDE PROG. number for each of the channels your recorder receives.

A Channel on your recorder (TV PROG. number)	B Station name	C GUIDE PROG. number
(ex.) 1	ARD	1
2	ZDF	2
3	WDR	17

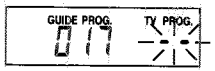
D In cases where the channel number your recorder receives A and the GUIDE PROG. number C for that station do not match, it is necessary to make changes in the remote control's Channel Map. (continued on next page)



INPUT GUIDE PROG. NUMBERS INTO REMOTE

1. **Press CH MAP until the Channel Map display (below) appears in the remote control's LCD.**

2. **Press the appropriate numeric keys to enter the GUIDE PROG. number (C column in your list).**
Ex.: For "1", press
0, 0, 1.
For "10", press
0, 1, 0.



3. **Press the appropriate numeric keys to enter the channel number your recorder receives that station on. (TV PROG. number, A column in your list.)**
Ex.: For "3", press
0, 3.

4. **Press SELECT.**
- To input other channels into the Channel Map, repeat steps 2 – 4 above.

5. **Press CH MAP and display the clock time.**

TO CHECK/CANCEL GUIDE PROG. NUMBERS IN THE REMOTE

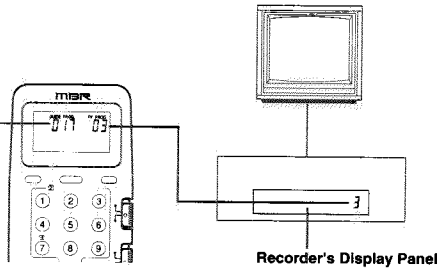
1. Press CH MAP until the Channel Map display (below) appears in the remote control's LCD.

2. Press SELECT until the GUIDE PROG. number you wish to check or cancel is displayed.

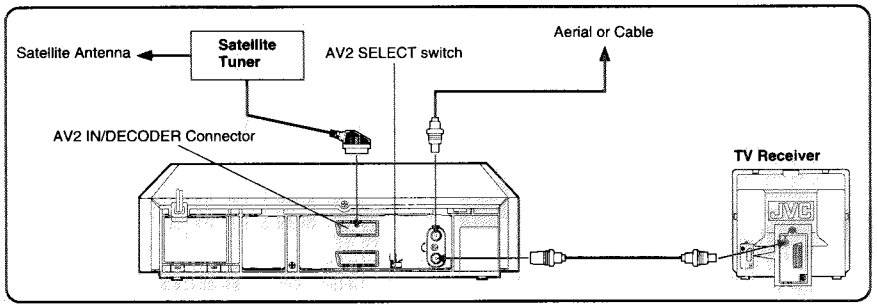
To Cancel:
3. Press CANCEL.
4. Press CH MAP and display the clock time.

NOTES:
- When you move to another area, be sure to make changes in the Channel Map as necessary.
- When the remote control's batteries are replaced, the time or Guide Channel numbers you have set may be erased. If this happens, reset them again.

Ex.: From column C in the list: The GUIDE PROG. number for WDR is "17".
From column A in the list: The TV PROG. number for WDR is "3".



Preparation for ShowView Timer Programming (cont'd)

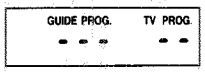


TO RECORD SATELLITE PROGRAMMES

Timer programming is also possible for programmes received via satellite tuner.

Preparation

1. **Connect the satellite tuner as illustrated to the AV2 IN/DECODER connector.**
   - Make sure the AV2 SELECT switch is set to "AV2".
2. **Press CH MAP until the Channel Map display (below) appears in the remote control's LCD.**



3. **Press the appropriate numeric keys to enter the GUIDE PROG. and TV PROG. numbers as follows:**
   - For GUIDE PROG., enter the GUIDE PROG. numbers of the satellite stations that are receivable through your satellite tuner.
   - For TV PROG., always enter "00". When "00" is entered, "AU" will appear in the LCD.

4. **Press SELECT.**
   - To input other satellite stations into the Channel Map, repeat steps 3 – 4 above.
5. **Press CH MAP and display the clock time.**

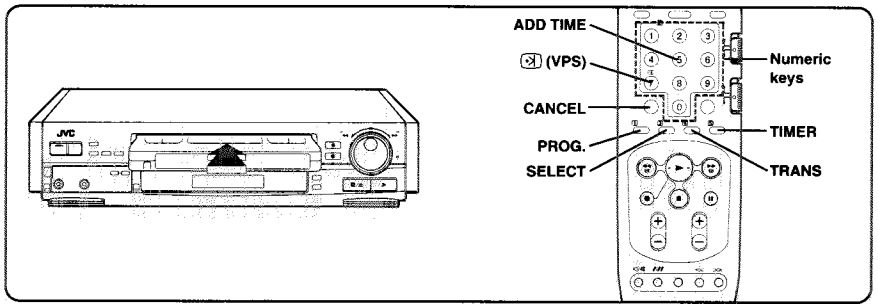
Operation

1. Turn on the satellite tuner and select the channel you wish to record.
2. Enter the ShowView number in the same way as shown in steps 1 – 6 of ShowView Timer Programming on p. 17.

NOTE:

- After selecting the programme you wish to record from your satellite tuner, set the system's timer. If your satellite tuner does not have a timer, leave it switched on.

Timer-Recording — ShowView Timer Programming —



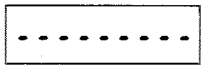
The built-in ShowView programming system greatly simplifies timer programming because you won't have to enter all the data that is usually necessary (such as date, start and stop time, and channel).

TIMER PROGRAMMING IS NOT POSSIBLE UNLESS THE CLOCK HAS BEEN SET.

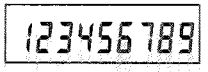
Preparation

- Make sure you have set the GUIDE PROG. numbers (☞ p. 14 – 16).
- Insert a cassette with the safety tab in place. The recorder power will come on automatically.

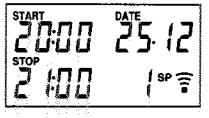
1. **Press PROG.**



2. **Press the appropriate numeric keys to enter the ShowView number for the TV programme you wish to record.**
   - For ShowView numbers, refer to your newspaper or TV directory.



3. **Press SELECT.**
   - The LCD will show the data for the ShowView number you just entered.
   - If the entered ShowView number is not proper, "Err" appears on the LCD. Check the ShowView number again and re-enter it.
   - If you wish to take advantage of VPS recording (☞ p. 19), "(VPS)" should be displayed on the LCD; if not, press (VPS) (the numeric key "7") to make it appear.



WEEKLY program: After step 3, press numeric key "9".
DAILY (Mon. – Fri.) program: After step 3, press numeric key "8".

4. **Press TRANS with the remote control directed toward the recorder's Remote Sensor window.**
5. **Press PROG.**
   - The LCD returns to the clock display and the entered data will be automatically cleared.
   - If you need to set another program, repeat steps 1 – 5.
6. **Press TIMER.**
   - The recorder will enter the Timer mode and power will go off.

TO DELAY THE STOP TIME

After you press SELECT in step 3, press the ADD TIME button. Each time the ADD TIME button is pressed, the Stop time is delayed by 5 minutes (5 minutes of recording time is added). You can easily compensate for anticipated programme schedule delays this way.

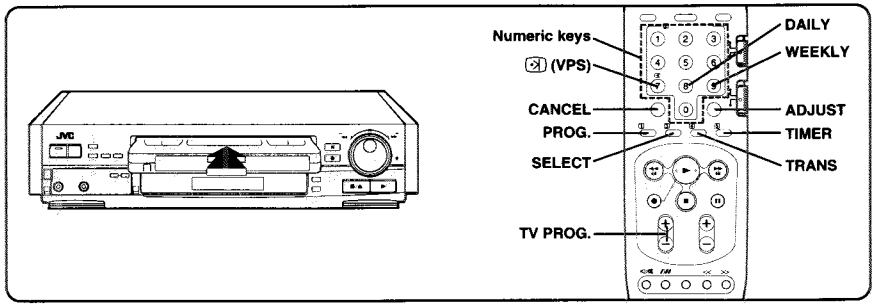
TO MAKE CORRECTIONS

- In step 2, press CANCEL to backspace and re-enter the correct ShowView number.
- After checking the data in step 3, press PROG. twice and re-enter the correct ShowView number.
- After checking the data in step 3, if you want to delay the stop time, etc. press SELECT to make the item you want to change blink, and input new data.
- Pressing PROG. clears the programmed data.

To check, cancel and replace programs, ☞ p. 18.

To use the recorder after setting to the Timer mode, ☞ p. 18.

Timer-Recording (cont'd) — LCD Timer Programming —



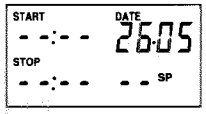
The LCD timer programming lets you input all necessary settings manually. It's helpful if the ShowView number for the TV programme you want isn't readily available.

Preparation

- Insert a cassette with the safety tab in place. The recorder power will come on automatically.

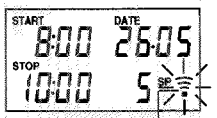
1. **Press PROG. twice.**
2. **Press numeric keys to input the date.**

   Ex.: For 26th May, press 2 6 0 5.



3. **Press numeric keys to input the start time, stop time and channel.**

   Ex.: For 8:00, press 0 8 0 0.



Transfer-ready mark

WEEKLY program: After you input the channel and the transfer-ready mark has appeared on the LCD, press numeric key "9".

DAILY (Mon. – Fri.) program: After you input the channel and the transfer-ready mark has appeared on the LCD, press numeric key "8".

- If you wish to take advantage of VPS recording (☞ p. 19), "⊡" should be displayed on the LCD; if not, press ⊡ (the numeric key "7") to make it appear.

4. **Press TRANS with the remote control directed to the recorder's Remote Sensor window.**
5. **Press PROG.**
   - The LCD returns to the clock display and the entered data will be automatically cleared.
6. **Press TIMER.**
   - The recorder will enter the Timer mode and power will go off.

TO MAKE CORRECTIONS

- During steps 2 and 3, press CANCEL to backspace and input new data.
- After setting the channel in step 3, press SELECT to make the item you want to change blink, and input new data.
- Pressing PROG. clears the programmed data.

TO CHECK, CANCEL AND REPLACE PROGRAMS

To check preset programs:

1. Press ADJUST until the program settings are displayed on the display panel.
   - Program 1 is displayed with the number blinking.
2. Press SELECT to review the program contents in succession.
3. To check another program, press ADJUST again.

To cancel the program:

4. Press CANCEL.
   - You can press CANCEL at any stage while the program is open.

To replace a program:

5. Use the SELECT and TV PROG. buttons to input new data.

TO USE THE RECORDER AFTER SETTING TO THE TIMER MODE

For safety, your recorder disables all other functions while in the Timer mode.

- Press TIMER to disengage the Timer mode.
- To re-engage the Timer mode, press TIMER.

NOTE:

- If you have a satellite tuner connected to the recorder's AV2 IN/DECODER socket and wish to timer-record satellite programmes, make sure to input "0" for the channel number in step 3 to make "AU" appear on the LCD. After you transfer the data to the recorder, "AU 2" will be displayed instead of a channel number on the recorder's display panel.

Error Indications

The following error indications may appear on the recorder when you press the TIMER button to engage the Timer Standby mode. Here's why, and what you should do.

- "TIMER" and "⊡" on the display panel continue blinking.
  WHY: There is no cassette in the recorder.
  WHAT TO DO: Insert a cassette.

- The cassette is automatically ejected. "TIMER" and "⊡" continue blinking.
  WHY: The inserted cassette has its safety tab removed.
  WHAT TO DO: Insert a cassette with its safety tab intact. Or cover the safety tab hole of the cassette with adhesive tape and re-insert it. ☞ p. 13.

- "TIMER" blinks for 10 seconds and the Timer Standby mode is cancelled.
  WHY: There are no preset programs in memory, or they have all been incorrectly preset.
  WHAT TO DO: Check the programmed data and re-program it as necessary. Press TIMER again.

Other Indications

- "TIMER" steady lit (with clock display).
  WHY: The recorder is in the Timer Standby mode. This is the normal display you should see when you press the TIMER button.

- " ○ " and "TIMER" steady lit.
  WHY: Normal display while timer-recording is in progress.

- The cassette was ejected, with power off and "TIMER" and "⊡" are blinking.
  WHY: This means that the end of the tape was reached while timer-recording was in progress. Therefore, the preset program may not be recorded in its entirety.

- "0:00" blinking.
  WHY: This means the clock must be set. It's displayed when time-keeping is terminated due to a power failure or because the recorder's power plug was pulled from the AC outlet.
  WHAT TO DO: Set the clock. ☞ p. 7.
- If power was interrupted, it's also likely that all preset timer programming data has been erased. Please check and re-program as necessary.

- "-- -- -- -- --" is displayed for about 5 seconds when the TRANS button is pressed.
  WHY: Data was not successfully transferred. The program may have been incorrectly preset, or the recorder's clock has not been set, or all the recorder's timer programs (1 – 8) are preset.
  WHAT TO DO: Check the LCD program, and re-program as necessary. Transfer the correct data. Or cancel unnecessary programs, and transfer again.

VPS Recording

Now available from some TV stations, VPS (Video Program System) is a service designed to assure safe, accurate timer-recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over advertised times you preset in the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed.

TO USE VPS SERVICE

- During ShowView or LCD timer programming, make sure that "⊡" is displayed on the LCD before transferring the programme data to the recorder.
- If "⊡" is not displayed on the LCD, press the ⊡ button (the numeric key "7") to make it appear. Pressing the ⊡ button alternates the setting.

NOTES:

- When you enter programmes, set the start time (VPS time) exactly as advertised in the TV listing. A different time than advertised will result in no recording.
- VPS recording is not possible via external input.

Locking The Recorder's Controls

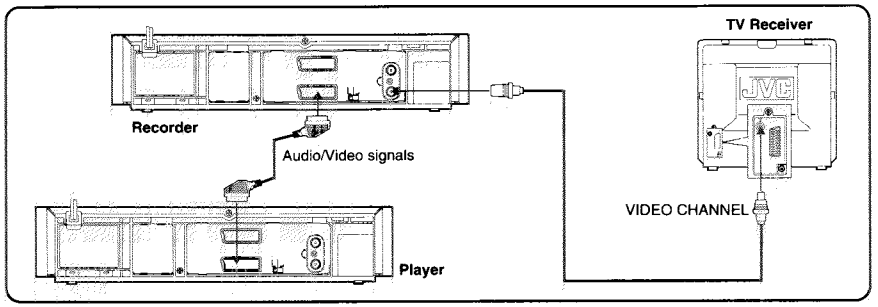
To avoid unwanted operation and prevent accidental recording...

1. Press the remote control's OPERATE button to turn the recorder's power off. Keep this button pressed for about 2 more seconds after the power LED indicator has gone off.
   - The Child Lock indicator (–) will appear on the display panel.
2. Child Lock is cancelled when you switch the recorder's power on with the remote's OPERATE button.
   - Pressing the TIMER button during timer-recording also cancels the Child Lock mode.

NOTES:

- While Child Lock is engaged, make sure you keep your remote control in a safe place inaccessible to children.
- Timer-recording is possible in the Child Lock mode. After timer-recording is done, Child Lock remains in effect.

Editing



Editing To/From Another Recorder

Preparation

■ Connect the player's AV1 IN/OUT connector to the recorder's AV1 IN/OUT or AV2 IN/DECODER connector.

	Player	Recorder
1	Load the source tape.	Load the recording tape.
2		Select the external input mode. **With this video recorder,** ■ If connected to the AV1 IN/OUT connector, press TV PROG. until "AU 1" appears on the display panel. ■ If connected to the AV2 IN/DECODER connector, make sure the AV2 SELECT switch is set to "AV2", and press TV PROG. until "AU 2" appears.
3		Press and hold down the Pause button while you press the Record button to enter the Record-Pause mode.
4	Play back the source tape to search for a scene to be edited.	
5		Start recording where you want to start editing, with this recorder, by pressing the Play button.
6		To stop editing temporarily, press the Pause button.
	Repeat steps 4 through 6 to continue editing.	
7	To stop editing, press the Stop button.	

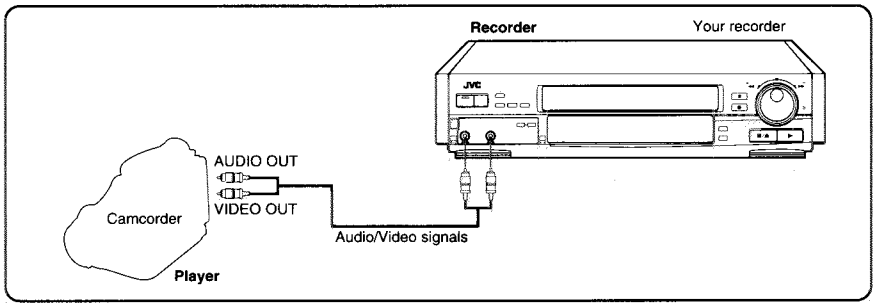
Remote A/B Code Switching

The remote control is capable of controlling two JVC video recorders independently; one set to respond to your remote control's A code control signals and another set to respond to B code control signals. The remote control is preset to send A code signals because your video recorder is initially set to respond to A code signals. You can easily modify your video recorder to respond to B code signals.

1. Unplug the recorder's power cord from the AC outlet.
2. Set the A/B code switch to B.
3. Plug the power cord back into the AC outlet. Do not use other remote controls at this stage.
4. Turn the recorder power on using the remote control's OPERATE button. The recorder will now only respond to B code signals.

NOTE:

Some TV sets may malfunction in response to the B mode. If this happens switch back to the A mode.



Editing From A Camcorder

Preparation

■ Connect the camcorder's A/V output connectors to the recorder's front panel VIDEO and AUDIO connectors.

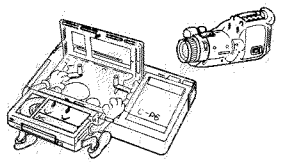
	Camcorder	Recorder
1	Load the source tape.	Load the recording tape.
2		Select the external input mode: ■ Press the numeric key "0". "F-AU" will appear instead of a channel number.
3		Press and hold down the Pause button while you press the Record button to enter the Record-Pause mode.
4	Play back the source tape to search for a scene to be edited.	
5		Press the Play button where you want to start editing.
6		To stop editing temporarily, press the Pause button.
	Repeat steps 4 through 6 to continue editing.	
7	To stop editing, press the Stop button.	

NOTE:

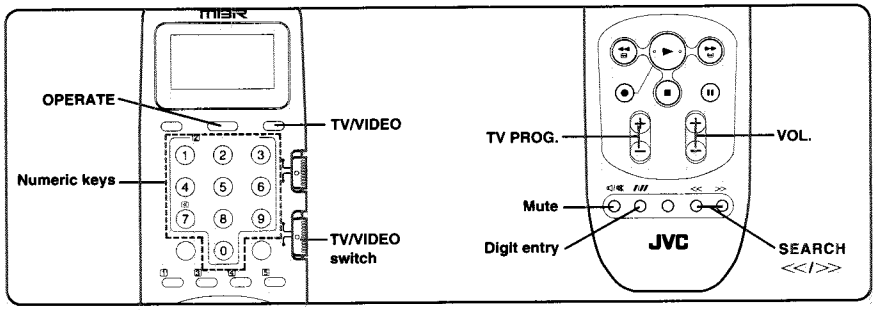
■ Connections made to the front panel Video and Audio input automatically override the rear panel AUDIO/VIDEO input connection.

To Watch A Compact VHS Tape

Compact VHS camcorder recordings can be played on your video recorder. Place the recorded cassette into a C-P6 Cassette Adapter and it can be used like any full-sized VHS cassette.



Using The Remote Control For TV Operation



TV Code Setting

Your remote control can operate the basic functions of your TV set. In addition to JVC televisions, other manufacturers' televisions listed on the right can also be controlled by setting the remote control to "TV". If your television is a JVC (Code 1), you don't have to set the TV code in step 2.

1. Set the TV/VIDEO switch to "TV".
2. While holding down the OPERATE button, press the numeric keys corresponding to the code number for your TV's brand.
   - Press OPERATE to turn the TV power on.
   - Press TV/VIDEO to switch the TV between TV and VIDEO (or AV) mode.
   - Press TV PROG. to select the TV's channel.
   - Press VOL. to adjust the TV's sound volume.
   - Press Mute to mute the TV's sound.
3. To operate your recorder, set the TV/VIDEO switch back to "VIDEO".

NOTES:

- The TV PROG. button does not function with televisions using Code 2.
- The TV/VIDEO button does not function with televisions using Code 3.
- With some televisions, the OPERATE button functions only to turn the TV power off, and the TV/VIDEO button functions only to switch the TV to the VIDEO (AV) mode.
- Whenever you replace batteries in the remote control, it is necessary to re-set the TV code if your television is not a JVC TV.

IMPORTANT
Although the provided remote control unit is compatible with JVC televisions, as well as many TV models manufactured by others, it is possible that the provided remote control will not work with your TV, or in some instances, will have limited function capability.

CODE	TV BRAND NAME
1	JVC
2	BRANDT, NORDMENDE, SABA, TELEAVIA, TELEFUNKEN, THOMSON
3	FERGUSON
4	PHILIPS
5	BLAUPUNKT, GRUNDIG
6	SONY
7	PANASONIC
0	GRAETZ, ITT, LUXOR, SALORA, SELECO

To Control Your Television With Additional Buttons

The numeric keys can also be used to select the TV's channel by setting the remote control to the TV mode.

1. Set the TV/VIDEO switch to "TV".
2. Use the numeric keys and the Digit entry button or the SEARCH <</>> buttons to select the TV's channel.
   - With televisions using Code 1, 3, 4, 6 or 7 the Digit entry button corresponds to the 1-digit/2-digit entry switching button (often labelled -/--) of your TV's remote control.
   - With televisions using Code 1, 5 or 0, the SEARCH << button corresponds to the 10 + button, and the SEARCH >> button, to the 20 + button of your TV's remote control.

NOTE:
The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.

Precautions

Please follow these safety precautions. Not doing so may result in damage to the recorder, remote control, or video cassette.

- **Avoid extreme heat and direct sunlight.**
- **Avoid extreme cold.**
- **Avoid extreme humidity.**
- **Avoid dust.**
- **Avoid places subject to vibrations.**
- **Avoid strong magnetic fields.**
- **Do not block the recorder's ventilation openings.**
- **Do not place anything heavy on the recorder or remote control.**
- **Do not place anything which might spill on top of the recorder or remote control.**
- **Do not place the recorder on cushions, pillows, or thick carpeting.**
- **Use the recorder in a stable, horizontal position only.**

Beware of moisture condensation
Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions — just as water droplets form on the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder's power turned on for a few hours to let the moisture dry.

When transporting

- Be sure to remove cassette from recorder before packing.
- Avoid violent shocks to the recorder during packing and transport.

Place cassettes in cassette cases and store vertically.

Specifications

GENERAL

Power requirement	: AC 220 – 240 V~, 50/60 Hz
Power consumption	: 20 W
Temperature	
Operating	: 5°C to 40°C
Storage	: –20°C to 60°C
Dimensions (WxHxD)	: 426 x 94 x 341 mm
Weight	: 4.5 kg
Format	: VHS PAL standard
Maximum recording time	: 240 min. with E-240 video cassette

VIDEO/AUDIO

Signal system	: PAL-type colour signal and CCIR monochrome signal, 625 lines/50 fields
Recording/Playback system	: Rotary two-head helical scan system
Signal-to-noise ratio	: 45 dB
Horizontal resolution	: 250 lines
Frequency range	: 70 Hz to 10,000 Hz
Input/Output	: 21-pin scart connector x 2 (IN/OUT x 1, IN/DECODER x 1) RCA connectors (VIDEO IN x 1, AUDIO IN x 1)

TUNER/TIMER

TV channel storage capacity	: 80 positions (+AUX position "AU")
Channel coverage	: VHF 47 – 89/104 – 300/ 302 – 470 MHz UHF 470 – 862 MHz
Aerial output	: UHF channel 36 (Adjustable 32 – 40)
Memory backup time	: Approx. 3 min.

ACCESSORIES

Provided accessories	: Aerial cable, Infrared remote control unit, "R6" battery x 2

Design and specifications subject to change without notice.